ROBERT H. FAGAN, M. D. (1136 West Sixth Street, Los Angeles).—The technique described for breech extractions by Doctor Hanley is, in my estimation, the safest of all procedures which have been described for this operation. Of all obstetrical procedures, I believe that the breech extraction is the most feared and the least understood by many physicians. Doctor Hanley's low fetal mortality rate is certainly worthy of comment. Particularly is this true when one considers that these deliveries were executed by many individuals in the process of their obstetrical training. It is doubtful if an obstetrician in private practice has as remarkably low fetal mortality rate in his breech deliveries. I should like to ask if many of the breech presentations are hospitalized for delivery? If so, it would be interesting to compare the mortality rate of those delivered in the hospital and in the home.

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STERLING N. PIERCE, M. D. (1930 Wilshire Boulevard, Los Angeles).—In this series of breech presentations, which were delivered on the City Maternity Service of Los Angeles and reported by Doctor Hanley, we are shown a mortality rate which is indeed very low, in fact, the lowest to be reported in six of the outstanding clinics of this country and Canada. It must be remembered that our City Maternity Clinic is strictly a teaching service, where training is given residents and medical students. This report shows the painstaking way with which the Service has been supervised.

There is little to add to what Doctor Hanley has said, but some points should be particularly stressed. First, in the handling of any breech delivery, the operator must be able to evaluate the comparative size of the passage and the passenger, for a successful delivery from below. Second, that a woman in labor with a breech presentation requires the same careful watching as a vertex presentation. Both mother and babe should be observed closely with no interference so long as labor progresses favorably. By no interference, we mean that the B. O. W. be kept intact, if possible, until dilatation of the cervix is complete.

Complete dilatation, or its equivalent, is essential before any breech extraction is attempted. In cases when the condition of either the mother or the baby indicates immediate delivery, one should resort to either mechanical means of dilating the cervix, or incisions.

Doctor Hanley also stresses the fact that a breech presentation should be allowed to progress normally until the lower extremities have been delivered. His method of delivery is worthy of careful study, particularly the extraction of the arms; since, although contrary to textbook teachings, it will cause less injury to the arms. Stress is also laid on the method of handling the after-coming head; namely, the head is maintained in flexion by inserting the fingers in the baby's mouth, and delivering the head by making pressure from above. Forceps on the after-coming head is a safer procedure, if any resistance is met at the bony pelvis.

However, it is my belief that episiotomy should be a routine procedure in primiparae. Another very important point which few understand is that time is not a particular element in breech extraction. Many babies have been lost or seriously injured by the operator endeavoring to complete delivery in a certain allotted time. While a breech should be delivered as rapidly as possible, gentleness and art are the first principles to be considered.

When we consider that this series was delivered on the old kitchen table on a teaching service, I feel that Doctor Hanley has contributed a great deal, particularly in showing the profession that every breech presentation is not necessarily an indication for abdominal delivery.

# CALIFORNIA MEDICAL-ECONOMIC SURVEY*

## EXCERPTS FROM THE PRELIMINARY REPORT OF JANUARY 16, 1935

### PURPOSE AND SCOPE OF THE STUDY

WHEN the staff of the California Medical-Economic Survey took up duties last August, it outlined a fourfold purpose of the research work to be undertaken. The staff proposed:

1. To ascertain the amount paid by various classes of income receivers in California for medical and dental care.
2. To determine the ability of various income groups in California
   (*a*) To pay for health and dental services.
   (*b*) To secure adequate medical and dental care.
3. To review methods of meeting the problem of medical care in various localities within the State, in other states, and in other countries.
4. Finally, after various methods of meeting the problem of medical care elsewhere have been reviewed,
   (*a*) To set forth all possible alternative methods of meeting such problems as the survey reveals exist within the State, and
   (*b*) To make constructive proposals based upon the findings of this study.

Almost five months have elapsed since this outline of study was made, and in view of the pressure of interest and developments the field to which the study pertains, it is quite appropriate and necessary for a pause to be made during which time the staff can summarize its activities and accomplishments to date, and present several significant preliminary findings together with appropriate recommendations.

The objectives to which the staff is committed necessitate very extensive investigation and study. A mass of data has been gathered in the last few months, but the work of tabulation and analysis only began recently. It is therefore necessary to emphasize that the tables presented in this Pre-

*Editor's Note.—The House of Delegates of the California Medical Association, at the annual session held at Riverside, in April, 1934, authorized the appointment of a special Committee of Five for the Study of Medical Care, and instructed it to make a medical-economic survey of California. This committee appointed consisted of Doctors William R. Molony, Chairman, Los Angeles; Harry H. Wilson, Secretary, Los Angeles; Alson R. Kilgore, San Francisco; Robert A. Peers, Colfax, and Rodney A. Yoell, San Francisco.

Paul A. Dodd, Ph. D., Assistant Professor of Economics in the University of California at Los Angeles, was appointed director of the survey; and Gordon S. Watkins, Ph. D., also Professor of Economics in the same university, was made consulting economist.

An Advisory Council, as well, was provided for, made up as follows: John B. Canning, Ph. D., Professor of Economics, Stanford University; Arthur G. Coons, Ph. D., Dean of Men and Associate Professor of Economics, Occidental College; Rockwell D. Hunt, Ph. D., Dean of the Graduate School, University of Southern California; The Reverend James J. Lyons, S. J., President of the University of Santa Clara; and Samuel C. May, Ph. D., Professor of Political Science and Director of the Bureau of Public Administration, University of California. At the same time, offices in which the administrative work could be carried on were established at the Beverly Professional Building, 9625 Brighton Way, Beverly Hills, California.

On January 16, 1935, Director of Survey Dodd submitted to the Committee of Five a Preliminary Report of 91 typewritten pages, copies of which were sent to the officers and component county societies of the California Medical Association, and to the delegates who were called in special session at Los Angeles on March 2 and 3. Later a Supplementary Report of some 30 pages was issued. Some excerpts from the first report are printed on this and the following pages, and to these extracts the attention of members of the Association is called, in connection with the reports adopted at the special session of the House of Delegates on March 3, 1935, as presented on page 194.

The excerpts printed under the starred title are from a report by Director Dodd's Survey Staff to the Committee of Five.

liminary Report are subject to later modifications. The labor involved in this type of work is far more extensive than at first might be realized; and adequate final analysis is dependent upon sufficient time and financial resources. With this warning in mind we turn first to a review of the research staff's activities and accomplishments up to the present, and an outline of tentative plans for the scope of the final study.

The field survey phase of the staff's study has been limited to the State of California; but the broader economic aspects of the problem of medical and dental care, involving a study of methods and principles, has been unlimited in scope. Thus, the factual data relating to the health and economic conditions of families, to doctors, dentists, hospitals, clinics, etc., have been purposely limited (in the main) to individuals and organizations within the State. But, on the other hand, all the data and information relating to methods of meeting public or private health needs have been secured wherever such information has been available. In other words, the statistical picture presented is one of conditions existing within California, while the results of experience and experiment elsewhere have been studied wherever it has been possible to secure records of them.

### TYPE OF DATA BEING GATHERED

The study is being based upon two types of data. One is composed of schedules[1] calling for information from the public and from the various professional groups and institutions related to the broad fields of medicine and dentistry. Two forms of general schedules have been used in recording information from the consumers of medical and dental services: the first for use by field visitors in personal contact with the individual family, and the second for use by the family indirectly through the mails or through some representative organization. Upon these two forms information has been obtained concerning the economic and health conditions (such as income, principal ailments, treatment, expenditures, etc.) of families throughout the State.

In addition to these general schedules for the public, a carefully planned schedule was constructed for recording data to be secured from the doctors, another for the dentists, another for the hospitals of the State, and still another for clinics.

All of these schedules were drawn up with the greatest possible care. Each form was compared with those used previously in similar studies; each was submitted to its respective group of doctors, dentists, hospital executives, or clinic heads for criticisms and suggestions. Furthermore, these forms were submitted also to each member of the Advisory Council and to the statistical research departments of both the State and the Federal Emergency Relief Administration. Thus, they were finally approved by these qualified individuals before being adopted by the staff for actual use. It might also be added that in the case of the general schedule actual sample test runs were made in the field before the final forms were printed so that as many of the indefinite questions as possible might be omitted, and proper final revisions might be made before the forms were put to final use.[2] But still several advisable alterations escaped the attention of the staff, not to be discovered until the field work was almost completed. No doubt a similar test run on the other forms would have proved valuable in indicating the desirability of changing the wording of several questions, and dropping several others from the forms. But in general they would have remained essentially the same. Certain obvious omissions of questions from the general schedule have been made deliberately, in order to minimize duplications and coördinate the information requested on the staff's schedules with that obtained by other studies of a somewhat similar nature.[3]

The second type of material being collected is composed of information relating to other phases of the problem of medical-economics, such as the details of hospitalization plans, health insurance plans, expressions of opinion from individuals and organizations, research material from other studies, the original questionnaires used in previous surveys, information from public health agencies, and insurance companies. This material, the staff feels, is needed for proper evaluation and interpretation. While this list of the material being used is not complete, it may serve to indicate the type of data on which the staff is working.

### GENERAL SCHEDULES SENT OUT

The intensive research program suggested above has necessitated a scientific method of procedure and as effective an administrative organization as possible to make certain that such a procedure was being followed. The first step, it was felt, was concerned with the selection of sampling areas throughout the State for use of the general schedule. The staff believed that if a one per cent random sample were obtained from the family population of the State, a picture gained from such a sample would be representative of the State as a whole; and if carefully taken would be acceptable for the purposes of this study.

An application for a blanket grant from the State Emergency Relief Administration to aid in the undertaking of this work throughout the State would have called for the establishment of a new precedent which would have set aside individual county autonomy in the handling of appropriations. This was found to be inadvisable and impracticable, and a different procedure for the organization of the field work of the survey was adopted. Under this new plan the State was di-

1 The forms used in this study are referred to as "schedules" rather than "questionnaires"—the distinction being principally one of set-up. A schedule is usually formidable in appearance, asking for much of the information to be filled out in tabular form; while a questionnaire is usually made up of simple questions calling for short and positive or negative answers.

2 Copies of all forms used will be incorporated in the Final Report.

3 It was particularly important to coördinate the work of this study with that of the depression and health survey (a California study being made under the direction of Miss Margaret Klem). Such questions as those relating to the division of medical and dental payments were omitted from our schedules because this information was being obtained in Miss Klem's study.

vided into counties, and an organization for the California Medical-Economic Survey was set up in each county included in the program. The staff recognized that the value of any survey which utilizes the principle of random sampling depends directly upon the care exercised in planning and executing the sampling process, and it has made every effort to develop a method of selecting sample families which, while being as simple and objective as possible, would still constitute a representative and unbiased cross section of the families throughout the State. In order to be doubly certain that this representative sample was being obtained, classifications permitting a close comparison of the staff's figures with those of the United States Census Bureau have been followed.

For the field work on the general schedule, then, the primary division of areas (for the purpose of sampling) was according to rural or urban residence of the family. Then followed the classifications of race and occupations. When these three items were taken into consideration, the sampling process became essentially a matter of geographical subdivision according to population densities. Since a one per cent random sample was desired, the best way to obtain this sample would have been to secure a one per cent sample from every town and village, and from each small unit of rural section in every county of the State. As indicated above, however, this was impossible for obvious reasons.[4] Instead, a selection of certain towns and villages and rural districts having geographic, economic, racial, and occupational characteristics quite representative of the county as a whole was made in twenty-six of the fifty-eight counties throughout the State.[5] Field work was thus concentrated in certain parts of the twenty-six counties covered, these counties in turn representing a total of almost 94 per cent of the population (1930) of the State.

### SUMMARY OF FIELD ACTIVITIES

Reference to the field activities will show that a total of 682 workers was engaged for the field work throughout the State, and that seventy-five have been employed in the central office on relief work. Of the 682 employed to carry on field operations, twenty-nine were supervisors, forty-three were office stenographers, local editors, and clerks; and 610 were field visitors. Some difficulties were encountered in the selection and training of such a large staff in a short time.[6] The fact that every field visitor engaged was limited to a work-relief budget and was paid by the Relief Administration created many difficulties in regard to the selection and qualifications of field personnel. In some counties, as in San Francisco, it was necessary to limit the time each worker spent in the field on the survey to only one or two days each week in order to comply with the regulations of the County Relief Administration. In San Diego County, on the other hand, field visitors were allowed anywhere between fifty and one hundred hours of work per month. This permitted one group of workers to complete the whole survey in that county. In Los Angeles County, after the county officials had granted a special request of the staff, the field visitors were allowed to work out (without restriction as to the maximum number of hours per day or days per week) their total monthly work order budget consecutively and without interruption. Nevertheless, in Los Angeles County a total of 297 field visitors were selected and trained to do the work originally planned for about 135 full-time workers. This was made necessary, as indicated above, because of the limited work allowances made to the State Emergency Relief workers during any one month.

Only a few of the problems bearing upon the field work of the survey have been indicated here. In view of the large labor turnover, the rapidity with which the survey organization has been built up, and the extent of the territory over which it has been spread, the accuracy of the results obtained may be questioned by some. A defense does not fall within the bounds of this brief preliminary report, and yet the staff feels that such a criticism is serious enough at least to be recognized. Suffice it to state here that all of these matters have received the closest scrutiny of the staff; and that while they may be serious, enough precautionary measures have been taken in advance to enable them to be dealt with satisfactorily. A system of rechecks has been developed so that each schedule filled out in the field has been edited by the county supervisor or his assistant before being turned in at the central office, where it has been double-checked completely by two different editors. Again, the accuracy with which the individual workers have obtained information is being checked by revisits to a number of the families originally giving the information. These and other rechecks have disclosed a number of inaccurate schedules, but the thorough application of the rechecks should permit the reliability and accuracy of the final results to be accepted without serious question.

However exhaustive the staff's efforts may be in rechecking, careful examination has demonstrated that information presented in answer to several questions on the schedules, at best, is only a guess on the part of a majority of the informants. Information of this quality, therefore, must be omitted from tabulations and analysis. This is particularly true of information concerning the family budget, where editing has shown that not more than one or two families out of one hundred keep a budget accurately enough to give proper proportional expenditures. Schedule returns from doctors, dentists, hospitals, and clinics have also disclosed several questions, answers to which cannot be tabulated for the same reasons. The staff mentions these cases only for the sake of emphasizing the care with which final interpretations are to be made.

4 The cost of securing the sample in some of the more inaccessible counties would have proved to be prohibitive. The primary consideration, however, in including any county in the survey was not one of cost, but rather one of population and representativeness.

5 For list of counties covered, see Appendix.

6 The duration of field work has ranged from ten days in Imperial County to ten weeks in Los Angeles County, depending upon the size and population of the county in question.

### SCHEDULES MAILED OUT

A second set of primary data has been obtained in answer to schedules sent out through the mails. A glance at the table below will indicate the extensiveness of this program.

TABLE 1.—*Summary of Schedules Mailed Out (to January 1, 1935)*

| Mailing | M.D. | D.D.S. | D.O. | Hospitals | Clinic | Total |
|---|---|---|---|---|---|---|
| Original | 9,236 | 5,669 | 1,314 | 460 | 416 | 17,095 |
| First follow-up | 7,240 | 5,056 | 1,070 | 433 | 300 | 14,099 |
| Second follow-up | 6,700 | 4,230 | ..... | 300 | ..... | 11,230 |
| Total | 23,176 | 14,955 | 2,384 | 1,193 | 716 | 42,424 |

Every person whose name appears in the March, 1934, Roster of Physicians and Surgeons, and in the September, 1933, Dentists' Directory, as well as every hospital and clinic throughout California, was solicited by means of a form letter with an enclosed original schedule. After an adequate waiting period, a first follow-up was addressed to those who had not returned a card stating that a schedule under separate cover had been filled out and mailed to the office of the survey. Where the staff felt it advisable, a second follow-up was sent out. When the coöperation of professional associations was lent, misunderstandings in regard to the purpose of the survey were cleared away, and thus the number of follow-ups that it was found necessary to send out was reduced considerably.

In addition to the mailing program indicated in the table above, the staff had printed a total of 26,000 direct mailing schedules which have been or are being distributed by three methods to individual families. Part of these schedules were stamped and addressed to certain mail-carrier routes in selected city districts and inaccessible villages not covered by field visitors. Another portion was sent out through unstamped personal deliveries made by field workers in metropolitan districts of Los Angeles and San Francisco not covered by the regular field visitors. The remaining portion is being distributed to members of the Parent-Teachers Association through officials of the various association units. This work is frankly admitted to be experimental, and while the returns are being tabulated separately from the other schedules, the staff feels that the checking made possible in this way more than justifies the relatively small additional expenditure involved in having these forms printed and distributed.

Many other inquiries have, in the course of this investigation, been addressed to groups such as the county health officers, presidents of civic organizations, representatives of commercial and labor organizations, employers, and others.

### RESULTS OF THE SURVEY

At this early stage, a brief presentation of some of the data made available by the survey is all that can be attempted. The following tables show the total number of responses received and compares the percentage of responses in this study with those obtained in previous surveys.

TABLE 2.—*Summary of Schedule Receipts (to January 12, 1935)*

| Schedules Received | Complete | Incomplete | Total |
|---|---|---|---|
| General schedules from field visitors | 19,601 | 609 | 20,210 |
| General schedules through mail | 1,157 | 25 | 1,182 |
| Doctor schedules—M.D. | 3,112 | 296 | 3,408 |
| Doctor schedules—D.O. | 646 | 59 | 705 |
| Dentist schedules—D.D.S. | 1,828 | 85 | 1,913 |
| Hospital schedules | 192 | 33 | 225 |
| Clinic schedules | 97 | 49 | 146 |
| *Total | 26,633 | 1,156 | 27,789 |

*Incomplete schedules are here classified as those having practically no information in usable form on them. Thus the number classified as complete will actually be less, considerably so in some cases, where tabulations on the answers to specific questions are being run, and the number included in the total tabulations of questions will vary according to the completeness of the answers to individual schedules.

From a study of the table below, it will be noted that, to date, 34 per cent of the doctors of medicine communicated with have sent in a fairly complete answer. When the total returns including

TABLE 3.—*Percentage Replies in California Medical Economic Survey Up to January 12, 1935*

| Classifications | Number in California Originally Contacted | Complete Schedules Received: Number | Complete Schedules Received: Per Cent Replying |
|---|---|---|---|
| M. D. | 9,236 | 3,112 | 34 |
| D. O. | 1,314 | 646 | 49 |
| D. D. S. | 5,669 | 1,828 | 31 |
| Hospital | 460 | 192 | 42 |
| Clinic | 416 | 97 | 23 |

296 incomplete schedules are counted in, this percentage is increased to thirty-seven. In the two surveys made by the Committee on the Costs of Medical Care (with the coöperation of the American Medical Association), a total of approximately 40 per cent of the doctors of medicine finally responded;[8] while in the Michigan study approximately 50 per cent responded,[9] and in the Tacoma, Washington, study to date a total of about 25 per cent have replied. It should be added that the 34 per cent response here referred to is based upon the total number of doctors of medicine listed in the Directory of the Board of Medical Examiners (1934), supplemented with an up-to-date list of those licensed by the board on or before April 1, 1934. Judging from replies explaining why schedules are not being returned, these lists have contained hundreds of names of doctors of medicine who have retired from active practice. If this is true the real percentage return increases accordingly.

It might be interesting in passing to note that the 31 per cent response from the dentists received from various parts of the State compares with a 62 per cent reply received in answer to a questionnaire sent out in 1930 by the American Dental Association. These forms were sent out to a one-in-four random sample from an alpha-

8 Maurice Leven, *The Incomes of Physicians*, Chicago, University of Chicago Press, 1932, Chapter II.

9 Michigan State Medical Society, *Report of the Committee on Survey of Medical Services and Health Agencies*, 1933, page 69, and Chapter IV.

10 From a special communication concerning the survey being conducted by the Foundation for Social Research in Medical Care in Tacoma, Washington, of which John Schlarb, Jr., is director.

betized list of 35,700 names.[11] However, returns from all groups covered by the California Medical-Economic Survey are still being received, so these percentages should not be accepted as final. Even so, the returns received to date appear to be entirely adequate and representative of the various professions and groups concerned.

### FINANCIAL APPROPRIATIONS

The detailed work of coding, editing, and punching is progressing satisfactorily, and there still remains a sufficient balance from appropriations of the State Emergency Relief Administration to see this work properly completed. For a summary of information concerning appropriations both from the Relief Administration and from the sponsors of the survey, reference is here made to the financial summary presented at the end of this report. It will be noted that total appropriations of some $55,425.42 have been secured from the State Emergency Relief Administration (through coöperation of the California State Board of Health), and expenses amounting to approximately $17,260.35 for proper direction[12] and $11,382.96 for supplies and staff overhead expenses are being met mainly by the California Medical Association. Within the last three weeks the California Medical Association has approved an additional request for approximately $5,000, and the Los Angeles County Relief Administration has approved one for $6,270. This has been done in order to permit the proper and thorough completion of the field and research work. These Relief Administration grants, together with the extensions of appropriations from the California Medical Association, are making possible a far more comprehensive and complete final report than was originally planned.

### PLANS FOR COMPLETING THE FINAL REPORT

It is hoped that the brief sketch contained in the preceding pages may serve to emphasize the fact that the work of the staff is still far from complete. A volume of factual data now lies in the central office of the survey, where it awaits accurate classification and correlation before complete analyses and interpretations can be made. In fact the data attached to this Preliminary Report, it must be remembered, constitute only a very limited sample of what can be compiled from the schedules and other data already available. In interpreting this material the members of the staff plan to make thorough tests of reliability and frequent comparisons between the results of this study and the results of others previously completed. At the same time, they are not unmindful of the qualifications that must be attached even to the final results. Work toward its completion is being hastened as fast as accuracy and thoroughness permit, and should end some time this spring.

11 The American Medical Association list was composed of 8,923 names selected by taking every fourth name appearing. Usable data with respect to incomes were supplied by 59 per cent of the total number communicated with. See Maurice Leven, *The Practice of Dentistry and the Incomes of Dentists in Twenty States, 1929*, Chicago, University of Chicago Press, 1932.

12 This includes payroll needs for twenty-four full-time workers and nine part-time workers during the peak of the field work in November and December.

### PURPOSE OF PRELIMINARY REPORT

Before turning to the two main divisions of the report that follow, it might be well to summarize the objectives of the Preliminary Report. They are, briefly, four in number, the first of which has been briefly covered in this Introduction:

1. To review the staff's activities, summarizing the results to date and indicating the scope of the Final Report.
2. To present and explain some significant preliminary tabulations (Part II).
3. To review briefly some of the more important principles and methods of health insurance (Part III).
4. To set forth certain qualified conclusions and recommendations, pending the completion of the Final Report (Part IV).

It is hoped that the foregoing discussion will have made clear the limitations of this Preliminary Report due to the incompleteness of the data incorporated in it and the fact that more time is required to enable a complete analysis of all the data to be made and final conclusions to be reached. In spite of these limitations the trends or tendencies revealed, even in this report, are not without significance.

* * *

## SELECTED FACTS FROM THE REPORT

Thirty per cent of the population of California live on farms or in communities of less than 5,000 inhabitants.

California had, in 1927, a higher proportion of physicians to population than any other state in the United States, or any nation in the world.

In California, in 1934, there were 537 persons per doctor of medicine in six metropolitan counties, while for the State as a whole, there were 625 persons per doctor of medicine.

In 1934 doctors of medicine in the State were almost twice as numerous as dentists, three times as numerous as chiropractors, and seven times as numerous as doctors of osteopathy.

The proportion of practitioners in Los Angeles in 1934 was four times as great as in communities of less than 5,000.

Over 40 per cent of all practitioners in Los Angeles and San Francisco are doctors of medicine, and almost 25 per cent are dentists.

Rural areas including small urban centers have a greater hospital bed capacity in proportion to population than have urbanized communities.

Patients with ordinary illnesses, requiring the facilities of general, maternity and children's hospitals, have access to only half the hospital bed capacity of the State.

Three hundred and ninety-nine hospitals reported a total bed capacity in 1933 of 61,053 beds, admitted 520,991 patients during the year, and had an average occupancy of 48,017 patients.

In 1933 all hospitals in California operated at about 79 per cent capacity. Government-owned hospitals operated at almost 90 per cent capacity, and non-government-owned operated at 53 per cent capacity.

The bed capacity of non-government-owned hospitals declined slightly from 17,362 in 1933 to 17,345 in 1934, while the bed capacity of government-owned hospitals increased from 43,691 in 1933 to 46,181 in 1934.

The number of patients admitted to non-government-owned hospitals in 1933 was almost as large as the number admitted to government-owned, while the bed capacity was less than half as large.

Almost one-third of the doctors of medicine earned less than $2,000 in 1933. Half of them earned less than $3,000, and three-fourths less than $5,000.

Approximately half the doctors of medicine reporting for both 1929 and 1933 earned less than $6,000 in 1929, while three-fourths earned less than $6,000 in 1933. Twenty-five per cent earned over $9,000 in 1929 and only 10 per cent in 1933.*

In 1933 one-half of the osteopaths had incomes of less than $2,000. Eighty-six per cent of them earned less than $4,000.

Five per cent of the doctors of osteopathy earned over $10,000 in 1929. None were in this income class in 1933. Fifty-one per cent of the osteopaths in 1929, and 85 per cent in 1933, earned less than $4,000.

Dentists appear to have earned less than doctors of medicine but more than osteopaths, in both 1929 and 1933.

In 1933, 34 per cent of the dentists earned less than $2,000, 61 per cent earned less than $3,000, and 78 per cent earned less than $4,000.

Only 13 per cent of the dentists reporting incomes for both 1929 and 1933 earned less than $2,000 in 1929; but in 1933, the proportion was 30 per cent. Forty-four per cent earned less than $4,000 in 1929, as compared with 76 per cent in 1933.

The depression seems to have affected the incomes of dentists and osteopaths more than those of doctors of medicine.

Eighty-one per cent of the 4,882 families upon which information has been tabulated reported annual incomes in 1933 of less than $2,000. Of these 26 per cent had incomes ranging from $2,000 to $1,200, and 55 per cent had incomes of less than $1,200.

Out of the 19 per cent of families found to have incomes of over $2,000 in 1933, 11 per cent had incomes ranging from $2,000 to $3,000, 5 per cent had from $3,000 to $5,000, and nearly 3 per cent had incomes of $5,000 and over.

Of all persons in the income class under $1,200, 17.3 per cent required medical attention in contrast to the 8.6 per cent of persons in the income class of $5,000 and over.

No significant differences in the need for medical care appear among the income classes between $1,200 and $5,000. The proportion of persons needing medical attention who received a diagnosis is smallest in the low income classes and greatest in the high income classes.

Twelve and three-tenths per cent of all persons in the income class under $1,200 were reported as requiring dental attention against 4.4 per cent in the class of $5,000 and over.

The proportion of persons needing dental attention who received a diagnosis varies with income, and relatively more sharply so than those reporting a need for medical attention who received a diagnosis.

Only 21.2 per cent of the income class under $1,200 needing dental attention were receiving it, while 60.3 per cent of those in the $3,000 to $5,000 class who reported the need for treatment were receiving it.

Twenty-five and seven-tenths per cent of all families studied reported no medical and dental charges had been incurred within the period September 1, 1933, to September 1, 1934. This does not necessarily mean, however, that they were receiving no medical care, for some may have received free clinical attention or free services from members of the professions.

The proportion of families reporting no charges incurred during a one-year period varies from 33.4 per cent in the group under $1,200, to 10.4 per cent in the group of $5,000 and over.

In each income class there are both large groups of families experiencing high charges and large groups experiencing low charges.

Of the families receiving less than $1,200 in 1933, 15 per cent reported that charges ranged between $20 and $40; 8 per cent reported charges of $100 to $200; 3.8 per cent or 103 families reported charges of between $200 and $500; twenty-three families reported charges between $500 and $1,000, and nine families reported charges of over $1,000.

Medical charges amounted to a proportion varying from half to all of the reported income of thirty-two of the families incurring charges of over $500. Of the families reporting incomes in 1933 ranging from $1,200 to $2,000, 15 per cent reported medical and dental charges from $100 to $200, while another 8 per cent reported charges of from $200 to $500.

In the income group between $2,000 and $3,000, 19 per cent of the families incurred charges between $100 and $200, and 14 per cent incurred charges between $200 and $500.

A great variety of health insurance schemes exist in various parts of the world. These include voluntary, semi-voluntary and obligatory plans.

The general tendency in recent years has been towards the extension of obligatory health insurance schemes in areas where they already existed, and the adoption of obligatory schemes in areas where previously only voluntary or semi-voluntary schemes had existed. This tendency has been slightly checked in some areas by the financial difficulties associated with the present economic depression.

The survey reveals defects in the existing organization of medical and dental services in California. A study of different systems of health insurance reveals the existence of defects in all of them.

Perfection is unattainable. The merits and defects of existing arrangements have to be compared carefully with the merits and defects of alternative arrangements.

* Editor's Note.—Income figures given are net. The Final Report, based on a larger number of replies, may show variations from figures here printed.

## PSYCHOTHERAPY*

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IT is frequently asserted that psychotherapy is the oldest form of medical treatment. The inference might be drawn therefrom that in such an old and well-established practice, a review of its various techniques at the present time might be superfluous. However, there has arisen a situation in the general field of medicine that makes a consideration of psychotherapy peculiarly opportune.

### THE SCIENTIFIC METHOD OF APPROACH IN MEDICINE

With the advent of the scientific method, and with its application to the field of medicine, there has developed a point of view that emphasizes, almost to the exclusion of others, the objective attitude toward the problems encountered. The essential character of science is not in the nature of the facts with which it deals, but in the method of attack which it employs. This method consists in the well known formula of, first, the observation of phenomena; second, the orderly arrangement and classification of the facts which have been observed; and, third, the finding of laws which will serve to explain those facts, and enable

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